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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,309	01/05/2006	Toshihiko Okamoto	Q87635	4780
23373 7590 06/01/2010 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER LOEWE, ROBERT S				
ART UNIT 1796		PAPER NUMBER		
NOTIFICATION DATE 06/01/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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USPTO@SUGHRUE.COM

# Office Action Summary

**Application No.**

10/533,309

**Applicant(s)**

OKAMOTO ET AL.

**Examiner**

ROBERT LOEWE

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 May 2010.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4,5,11,12,15-26 and 78-81 is/are pending in the application.  
4a) Of the above claim(s) 4,5,11,15-22 and 78-80 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,2,12,23-26 and 81 is/are rejected.  
7) ☒ Claim(s) 12 and 23-26 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

Applicants arguments/remarks, filed on 5/6/10, have been fully considered. Applicants have now amended the instant claim 1 by incorporating the limitations of claim 3 (now cancelled). Applicants argue that neither primary reference Wakabayashi et al. (4,910,255) and Doi et al. (US Pat. 6,207,766) when taken with secondary reference Ando et al. (US Pat. 6,703,442) teach or suggest Applicants claimed curable composition. Applicants argue that the selection of the organic polymer (A1), the silicate (B) and the tin carboxylate (C) of the instant claims affords a composition with excellent curability and recovery of the cured product produced therefrom. Applicants argue that in addition to organic polymer (A1), Wakabayashi et al. teaches a long list of silane compounds [formula (I) of Wakabayashi et al.] and does not offer sufficient guidance to a person having ordinary skill in the art to select the claimed silicates. Further, Applicants argue that employing organotin curing catalysts according to the instant claims affords compositions with shorter skin formation times than when compared to the curing catalysts as taught by Wakabayashi et al. Applicants also argue that Doi et al. does not teach or suggest any improvement in curability when including a silicate compound to the curable compositions taught therein. However, both Wakabayashi et al. and Doi et al. explicitly render obvious curable compositions which may comprise, in some embodiments, polymers which fully satisfy component (A1) of the instant claims in conjunction with a silicate [component (B) of the instant claims]. While neither Wakabayashi et al. nor Doi et al. specifically teach employing tin curing catalysts which satisfy the limitations of the instant claims, Ando et al. was relied upon to show that substitution of the tin catalysts employed by Wakabayashi et al. and Doi et al. would have been obvious based on the position of equivalency. Applicants 1.132 Declaration, filed on 5/6/10, which is presented to rebut the arguments/rejections made by the Examiner has been fully considered but does not place the application in condition for allowance for the following reasons:

The 1.132 Declaration shows several experimental compositions and list two physical properties associated with the compositions, skin formation time and percent recovery. The working examples show that the skin formation time is longer when employing a tin catalyst which does not satisfy the limitations of ingredient (C) of the claims than when compared to employing a tin catalyst which does satisfy the limitations of ingredient (C) of the instant claims. However, a

single showing of two organotin catalysts (one which satisfies the instant claims and one which does not) is not commensurate in scope with the limitations of component (C) of the instant claims, which is claimed as a tin carboxylate in which the  $\alpha$ -carbon of the carboxyl group is a quaternary carbon atom. This limitation as claimed reads on many different organotin curing catalysts. Further, the recovery ratio when employing the tin curing catalyst of experiment 5 is identical to that in experiment 1, which is a composition according to the claimed invention. Therefore, it seems that the skin formation times are comparable when employing tin catalysts in which the alpha-carbon atom of the tin catalyst is a tertiary carbon atom. It is this type of comparability which lends credence to the equivalency argument made in the prior art rejections below. Last, experiment 6 of the Declaration employs about 88% as much catalyst as experiments 1-5 and does not include any carboxylic acid ingredient which is present from experiments 2-5 of the Declaration. Therefore, the compositions of Experiment 6 are not truly analogous when compared with experiments 1-5 of the Declaration.

The 1.132 Declaration also attempts to show that the use of methyl or ethyl silicates as crosslinking agents compared to non-silicates (silanes having fewer than four hydrolyzable groups) affords compositions with improved properties. However, there does not appear to be significant differences between experiments 2, 3 (which utilize the claimed silicates) and experiment 4 (which utilizes a non-silicate crosslinker) of the Declaration. The difference between experiment 7 (which utilizes a silicate according to the instant claims) and experiment 8 (which utilizes a non-silicate crosslinker) appears to have a more significant difference in skin formation time and recovery ratio. However, these working examples employ specific partial condensates of methyl and ethyl silicate. Instant claim 1 is not limited to such partial condensates. Applicants are encouraged to incorporate the limitations of instant claim 2 into instant claim 1 such that the showing of unexpected results is commensurate in scope with the claims. Further, Applicants are encouraged to incorporate the limitations that the organic polymer (A) is a polyoxyalkylene polymer of claim 81 into independent claim 1 since all working examples use such polymers.

### ***Claim Objections***

Claims 12 and 23-26 are objected to as being dependent from withdrawn claims. Applicants should remove "or 11" from claim, and should remove "11, 15, 16, 18, 20 and 21" from claims 23, 24 and 26, and should remove "11, 17, 18, 20 and 21" from claim 25.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 12, 23, 24, 26 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakabayashi et al. (US Pat. 4,910,255, which is cited on Applicants information disclosure statement, filed on 7/9/09) in view of Ando et al. (US Pat. 6,703,442).

Claims 1, 2 and 81: Wakabayashi et al. teaches a curable composition which comprises an oxyalkylene polymer having silicon-containing functional groups which are capable of crosslinking by forming siloxane bonds (abstract) and a partial hydrolysis condensate of an organic silane monomer, which may be equal to ethylsilicate (abstract, 12:9 and 12:30-32). The oxyalkylene polymers taught in the specification in some embodiments would satisfy the organic polymer (A1) component of the instant claims (10:22-36).

While Wakabayashi et al. does not explicitly teach the use of a tin carboxylate wherein the alpha-carbon next to the carboxyl group is a quaternary carbon atom, Ando et al. does teach such tin-based catalysts (7:19-20 of Ando et al.). Tin versatate represents a tin carboxylate which satisfies the limitations of instant claim 3. Wakabayashi et al. and Ando et al. are combinable because they are from the same field of endeavor, namely, curable polyoxypropylene-based compositions useful

as sealants and adhesives. Both Wakabayashi et al. and Ando et al. teach the addition of the same tin carboxylate catalysts such as tin octylate. Given the same fields of endeavor of Wakabayashi et al. and Ando et al., it would have been obvious to substitute those tin carboxylate catalysts taught by Ando et al., including tin versatate, for those taught by Wakabayashi et al. It is *prima facie* obvious to substitute equivalents, motivated by the reasonable expectation that the respective species will behave in a comparable manner or give comparable results in comparable circumstances. *In re Raff* 118 USPQ 340. See MPEP 2144.06. The express suggestion to substitute one equivalent for another need not be present to render the substitution obvious. *In re Font*, 213 USPQ 532.

Claim 12: Wakabayashi et al. teaches that the silyl-capped oxyalkylene polymers may be prepared via metal mediated hydrosilylation of a silane of formula (IX) with a polyether having an olefin of formula (X) (10:22-36), which satisfies the limitations of instant claim 12.

Claim 23: The polymers of Wakabayashi et al., when prepared in the manner as taught in 10:22-36, are free of any amide segments along the main chain of the polymer.

Claim 24: Wakabayashi et al. teaches that the silanes which may be used to cap the olefin-functional polyoxyalkylenes may be triethoxysilane (8:16), which satisfies the limitation of instant claim 24.

Claim 26: Wakabayashi et al. teaches the addition of fillers (13:55-58). Included in this list is silica, which is a well-known dehydrating agent, thus satisfying the limitations of instant claim 26.

Claims 1, 12, 23, 25, 26 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doi et al. (US Pat. 6,207,766) in view of Ando et al. (US Pat. 6,703,442).

Claims 1 and 81: Doi et al. teaches room-temperature curable compositions which include polyoxyalkylene-based polymers having a molecular weight of from 8,000 to 50,000 and having hydrolyzable silicon groups (abstract). Doi et al. exemplifies an oxypropylene polymer which is capped on both terminals with trimethoxysilyl groups (polymer P1 of Doi et al.). Doi et al. further teaches that a dehydrating agent such as tetramethoxysilane or tetraethoxysilane (i.e., a silicate, which satisfies component (a) of instant claims 1 and 77) may be added (13:29-30).

While Doi et al. does not explicitly teach the use of a tin carboxylate wherein the alpha-carbon next to the carboxyl group is a quaternary carbon atom, Ando et al. does teach such tin-based catalysts (7:19-20 of Ando et al.). Tin versatate represents a tin carboxylate which satisfies the

limitations of instant claim 3. Doi et al. and Ando et al. are combinable because they are from the same field of endeavor, namely, curable polyoxypropylene-based compositions useful as sealants and adhesives. Both Doi et al. and Ando et al. teach the addition of the same tin carboxylate catalysts such as tin stearate and tin naphthenate. Given the same fields of endeavor of Doi et al. and Ando et al., it would have been obvious to substitute those tin carboxylate catalysts taught by Ando et al., including tin versatate, for those taught by Doi et al. It is *prima facie* obvious to substitute equivalents, motivated by the reasonable expectation that the respective species will behave in a comparable manner or give comparable results in comparable circumstances. *In re Ruff* 118 USPQ 340. See MPEP 2144.06. The express suggestion to substitute one equivalent for another need not be present to render the substitution obvious. *In re Font*, 213 USPQ 532.

Claim 12: Polymer P1 of Doi et al. is taught to be prepared via platinum-metal mediated hydrosilylation of trimethoxysilane and allyl-group-terminated polypropylene oxide (example 1). Such a procedure fully satisfies the process steps of product-by-process claim 12.

Claim 23: Polymer P1 of Doi et al. is free of amide segments, thus satisfying the limitations of instant claim 23.

Claim 24: Specifically, Doi et al. teaches that the hydrolyzable groups are most preferably lower alkoxy groups such as ethoxy (4:12-18), which satisfies the limitations of instant claim 24.

Claims 25 and 26: Working example 59 of Doi et al. employs polymer P1, satisfies the structural requirements of organic polymer (A1) of instant claim 1. Working example 59 also employs the use of vinyl trimethoxysilane as a dehydrating agent. Substitution of vinyl trimethoxysilane for tetra(m)ethoxysilane as taught by Doi et al. would satisfy component (a) of the instant claims as well. Working example 59 of Doi et al. further comprises an aminosilane coupling agent, thus satisfying instant claim 25. Further, the tetra(m)ethoxysilane as taught as Doi et al. would inherently serve as both component (A) of the instant claims, and as a dehydrating agent as required by instant claim 26.

#### ***Relevant Art Cited***

The prior art made of record and not relied upon but is considered pertinent to applicants disclosure can be found on the attached PTO-892 form.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT LOEWE whose telephone number is (571)270-3298. The examiner can normally be reached on Monday through Friday from 5:30 AM to 3:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./  
Examiner, Art Unit 1796  
29-Dec-09

/RANDY GULAKOWSKI/  
Supervisory Patent Examiner, Art Unit 1796